

IMPAIRED DRIVING IN MASSACHUSETTS

INCIDENCE OF IMPAIRED DRIVING

For one of every 100 miles driven in Massachusetts in 1999, a person with a blood alcohol concentration (BAC) $\geq .10$ sat behind the wheel. Police in Massachusetts reported 3,345 crashes involving a driver or pedestrian with a BAC of .01 or more. Formulas developed by NHTSA were used to estimate the number of alcohol-related crashes where alcohol involvement was not reported by the police. An estimated total of 17,400 crashes in Massachusetts involved alcohol. These crashes killed 203 and injured an estimated 10,800 people.

Impaired Driving by Blood Alcohol Concentration (BAC)

In 1999, Massachusetts drivers with:

- BACs of .10 and above were involved in an estimated 16,500 crashes that killed 140 and injured 9,500
- BACs between .08-.09 were involved in an estimated 300 crashes that killed 18 and injured 400
- Positive BACs below .08 were involved in an estimated 600 crashes that killed 45 and injured 900

COSTS

Alcohol is a factor in 11% of Massachusetts' crash costs. Alcohol-related crashes in Massachusetts cost the public an estimated \$1.9 billion in 1999, including \$0.8 billion in monetary costs and almost \$1.1 billion in quality of life losses. (For definitions of the cost categories, see the definitions fact sheet.) Alcohol-related crashes are deadlier and more serious than other crashes. People other than the drinking driver paid \$1.2 billion of the alcohol-related crash bill.

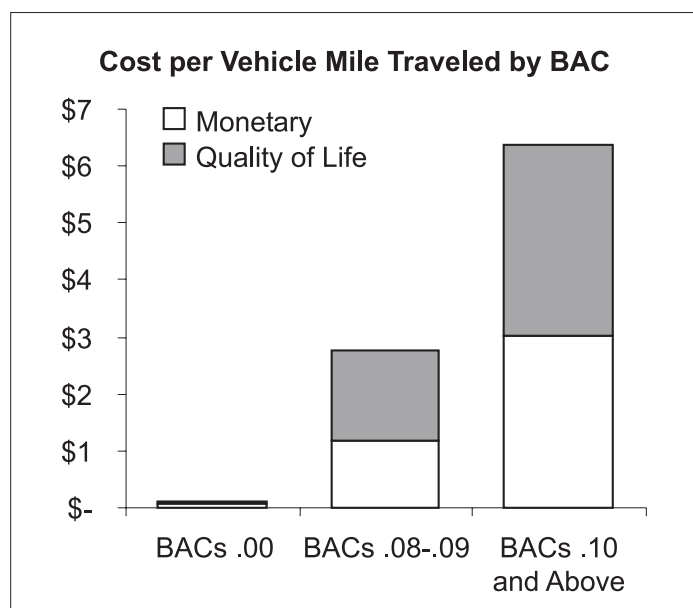
Costs per Alcohol-Related Injury

The average alcohol-related fatality in Massachusetts costs \$4.6 million:

- \$1.5 million in monetary costs
- \$3.1 million in quality of life losses

The estimated cost per injured survivor of an alcohol-related crash averaged \$130,000:

- \$63,000 in monetary costs
- \$67,000 in quality of life losses



Costs per Mile Driven

Crash costs in Massachusetts averaged:

- \$6.40 per mile driven at BACs of .10 and above
- \$2.80 per mile driven at BACs between .08-.09
- \$0.10 per mile driven at BACs of .00

Costs per Drink

The societal costs of alcohol-related crashes in Massachusetts averaged \$0.60 per drink consumed.

People other than the drinking driver paid \$0.40 per drink.

Impact on Auto Insurance Rates

Alcohol-related crashes accounted for an estimated 17% of Massachusetts' auto insurance payments. Reducing alcohol-related crashes by 10% would save \$30 million in claims payments and loss adjustment expenses.

PREVENTION SAVINGS OF IMPAIRED DRIVING MEASURES

Massachusetts already has many important impaired driving laws. They are saving money and lives. The estimates that follow describe the expected costs and savings, given Massachusetts' prices and impaired driving rates. The estimates assume Massachusetts' laws achieve average U.S. effectiveness levels.

Administrative License Revocation: Laws that allow police or driver licensing authorities to revoke a driver's license swiftly and automatically for refusing or failing a BAC test have reduced alcohol-related fatalities by 6.5% on average and saved an estimated \$93,700 per driver sanctioned. The value of the driver's lost mobility is the large majority of the estimated \$4,700 cost per driver sanctioned. Reinstatement fees assessed to offenders typically cover start-up and operating costs.

Zero Tolerance Law: Laws like Massachusetts' that make it illegal for persons under 21 to drive with a positive BAC have reduced impaired-driving fatalities by 4% on average. Per licensed youth driver, this law costs approximately \$50 and yields net savings of \$1,300. Medical care cost savings alone exceed the intervention cost. The primary cost is the value of mobility lost by youth who are forced to reduce their drinking or driving.

Minimum Legal Drinking Age (MLDA): To reduce alcohol-related fatal crashes among youth, Massachusetts has adopted a MLDA of 21. It saves an estimated \$1,000 per youthful driver. The loss of liquor sales is the large majority of the \$280 cost per youthful driver.

Graduated Licensing: Graduated licensing is a three-stage program that involves a learner's permit, intermediate (provisional) license, and full licensure. To advance between stages, young drivers are required to demonstrate responsible driving behavior. Graduated licensing with a midnight curfew could reduce youth fatalities by at least 5% and total alcohol-related fatalities by 2%. Savings amount to an estimated \$900 per youthful driver in Massachusetts. The value of the mobility lost by youth is a large portion of the estimated \$120 cost per youthful driver.

POTENTIAL SAVINGS FROM FURTHER PREVENTION EFFORTS

A number of additional strategies can mitigate the harm from impaired driving. The following paragraphs estimate the potential savings, in Massachusetts's prices, if other proven impaired driving prevention measures were widely implemented in Massachusetts.

Intensive Sobriety Checkpoint Program: Intensive enforcement of Massachusetts State BAC limits with highly visible sobriety checkpoints would reduce alcohol-related fatalities by at least 15% and save approximately \$108,400 per checkpoint. Including police resources, costs of travel delay and the value of mobility losses by impaired drivers apprehended and sanctioned, the costs of conducting a checkpoint average about \$15,400.

Enforcing Serving Intoxicated Patrons Law: Using undercover police officers to enforce the State law against serving alcohol to intoxicated bar and restaurant patrons would reduce alcohol-related crash fatalities by an estimated 11%. It would cost an estimated \$0.50 per licensed driver and save about \$40 per licensed driver.

.08 BAC Law: A well-publicized State law lowering driver BAC limits to .08 can potentially reduce alcohol-related fatalities by an average of 7%. On average, a .08 law in Massachusetts could save an estimated \$72 per licensed driver. The value of mobility losses and alcohol sales reductions resulting from the law would be a large portion of the estimated \$5 cost per licensed driver.

Server Training: Server training programs provide education and training to servers of alcoholic beverages with the goal of altering their serving practices to prevent patron intoxication and alcohol-impaired driving. Generally, 40% to 60% of intoxicated patrons drive after consuming alcohol in bars, clubs or restaurants. A statewide, full-day, mandatory, face-to-face server training program with active management support has the potential to reduce nighttime DUI injury crashes by 17%. Implementing such a program costs an estimated \$120 per licensed driver and saves about \$400 in crash costs per licensed driver.

INTERVENTIONS TARGETING REPEAT OFFENDERS

Not many repeat offenders are deterred by broad impaired driving laws. Four alternative sanctioning approaches have proven especially effective at reducing repeat offenses.

Automobile Impoundment: Impounding vehicles after conviction for DUI or driving while suspended can decrease recidivism by an estimated 38% and DUI crashes by about 4%. Overall, per vehicle impounded, enforcement of this law would cost Massachusetts approximately \$1,400 and save on average \$7,200.

Ignition Interlock: Breathtesting ignition interlocks are designed to prevent anyone with a positive BAC from starting or driving a car. Attaching an interlock to a car for a year after its operator is convicted of driving while intoxicated would reduce recidivism by an estimated 75% and alcohol-related fatalities by 7%. It would save almost \$13,800 per vehicle equipped. Including equipment and case management costs, interlock costs would total approximately \$1,660 per vehicle.

Electronically Monitored House Arrest: Electronic monitoring is an alternative to incarcerating repeat offenders. It provides assurance of an offender's presence within an assigned area. Monitoring programs attach a device to the wrist or ankle that relays a continuous signal to a computer and also may require offenders to relay a breath test when prompted by a random phone call. Implementation of this program could decrease recidivism by an estimated 31%, causing DUI crashes to decrease by about 3% in Massachusetts. Per person arrested, the program would cost nearly \$2,400 and could avoid an estimated \$9,100 in crash costs and almost \$3,110 in incarceration costs.

Intensive Probation Supervision with Treatment: Intensive probation supervision with treatment is an alternative to incarcerating repeat offenders. This early intervention program seeks to reduce alcohol-impaired driving by addressing repeat offenders' drinking habits and provides intensive individual counseling and monitoring. Implementation of this program in Massachusetts could decrease recidivism by an estimated 48%, causing DUI crashes to decrease by 4%. Typically, per person arrested, this program costs approximately \$2,100 and can avoid an estimated \$10,100 in crash costs and \$870 in incarceration costs.

PREVENTION SAVINGS OF OCCUPANT PROTECTION MEASURES

Along with impaired driving interventions, a number of important occupant protection strategies reduce impaired driving and other highway injuries.

Primary Safety Belt Law: Passage of a primary safety belt law in Massachusetts would allow law enforcement to stop and ticket a driver for nonuse of a safety belt without requiring the driver to be cited for or have committed another offense. Unbelted occupants account for 83% of impaired driving fatalities in Massachusetts. Savings could amount to an estimated \$8,000 per new belt user. If enforced with frequent belt-use checkpoints, the value of temporary discomfort experienced by some new belt wearers and travel delay costs at checkpoints are the large majority of the law's estimated \$490 cost per new belt user.

Child Safety Seat Law: Infants and children who are seated in places other than the back seat account for nearly 50% of child fatalities in Massachusetts, and those seated in the back seat without proper restraints account for an additional 50% of child fatalities. Drinking drivers are more likely than other drivers to transport children improperly. Traveling in a child safety seat reduces the chance of a crash death by an estimated 71% for infants and 54% for children age 1-4. Child safety seat law like Massachusetts' typically reduce occupant fatalities of children age 4 and under by approximately 15% and their alcohol-involved deaths by an estimated 42%. The average child seat costs approximately \$45 but avoids nearly \$2,900 in injury costs.

Motorcycle Helmet Use Law: Statewide, 9% of alcohol-related crash fatalities are motorcyclists; 11% of these motorcyclists were unhelmeted. The motorcycle helmet use law in Massachusetts saves lives and prevents devastating and debilitating head injuries. Wearing a motorcycle helmet reduces a rider's risk of death by 29% and nonfatal injury risk by 15%. On average, helmets cost about \$380 in Massachusetts and prevent nearly \$6,300 in injury costs.

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